

1 **MULTICOLORED THREE-DIMENSIONAL CANDY AND METHOD**
2 **OF MANUFACTURING THE MULTICOLORED THREE-**
3 **DIMENSIONAL CANDY**

4 **BACKGROUND OF THE INVENTION**

5 1. Field of the Invention

6 The present invention relates to a multicolored three-dimensional
7 candy, and more particularly to a multicolored three-dimensional candy that
8 shows excellent three-dimensional relief and a method of manufacturing the
9 multicolored three-dimensional candy.

10 2. Description of Related Art

11 With reference to Fig. 3, a conventional method of manufacturing
12 three-dimensional (3-D) candy comprises the steps of heating materials (30),
13 injecting the heated materials into a mold, cooling the material to form a
14 product (31) and releasing the product from the mold (32). The first step is
15 heating the raw materials of the candy to a liquid state. Additional pigment may
16 be added to the raw materials. The second step is injecting the liquid raw
17 materials to a mold that has a relief structure. The different colored liquid raw
18 materials can be divided into parts to inject into the mold to show the different
19 color gradation of the candy. The liquid raw materials are cooled to form a
20 solidify product. The third step is separating the solid candy from the mold.

21 However, the color gradation of the candy just shows on the thickness
22 direction and the 3-D structure of the candy only reflects the relief structure of
23 the mold. The appearance of the candy manufactured by the conventional
24 method cannot attract customers to buy the candy.

1 SUMMARY OF THE INVENTION

2 The main objective of the present invention is to provide a
3 multicolored three-dimensional candy that shows better three-dimensional
4 features than conventional multicolored three-dimensional candy and a method
5 of manufacturing the forgoing multicolored three-dimensional candy.

6 To achieve the objective, a method for manufacturing a multicolored
7 three-dimensional candy has the steps of heating materials, mixing pigment
8 with the heated materials, injecting the mixed materials into a mold, adding an
9 supplementary material to the mold, cooling to form a product and releasing the
10 product from the mold. Since the materials are injected separately into different
11 areas of the mold, the multicolored three-dimensional candy manufactured by
12 the method has different areas with different depth, curve and color. The
13 appearance of the candy can attract customers to buy it.

14 Further benefits and advantages of the present invention will become
15 apparent after a careful reading of the detailed description with appropriate
16 reference to the accompanying drawings.

17 BRIEF DESCRIPTION OF THE DRAWINGS

18 Fig. 1 is a block diagram of a method for manufacturing a multicolored
19 three-dimensional candy in accordance with the present invention;

20 Fig. 2 is a perspective view of a multicolored three-dimensional candy
21 in accordance with the present invention; and

22 Fig. 3 is block diagram of a conventional method of manufacturing a
23 conventional multicolored three-dimensional candy in accordance with the
24 prior art.

1 DETAILED DESCRIPTION OF THE INVENTION

2 With reference to Fig. 1, a method for manufacturing a multicolored
3 three-dimensional candy in accordance with the present invention comprises
4 the steps of heating materials (10), mixing pigment with the heated materials
5 (11), injecting the mixed materials into a mold (12), adding an supplementary
6 material to the mold (13), cooling to form a product (14) and releasing the
7 product from the mold (15).

8 The step of heating materials (10) comprises heating the individual raw
9 materials until the individual raw materials become liquids.

10 The step of mixing pigments with the liquid materials (11) comprises
11 mixing desired pigment with the individual liquid raw materials.

12 The step of injecting the mixed materials into a mold (12) uses an
13 injector to inject a specific material into a desired part of the mold. The mold
14 has different deep and shallow areas separated by division walls and may be
15 pliable and manufactured of silicone. The injector has a nozzle and a
16 compressor. The compressor has an air filtration apparatus. When a desired
17 material is injected completely into one area of the mold and the materials
18 solidify, an injector injects another desired material into another area.

19 The step of adding a supplementary material to the mold (13)
20 comprises depositing supplementary material on the solidified materials to
21 securely bond the solidified materials in the different areas.

22 The step of cooling to form a product (14) comprises controlling the
23 raw materials and the supplementary material to a suitable temperature by
24 carrying out the cooling step to form the product.

1 The step of releasing the product from the mold (15) comprises
2 separating the product from the mold.

3 For example, manufacturing a candy from solid maltose and granulated
4 sugar comprises the following steps.

5 Firstly in the step of heating materials (10), the maltose and granulated
6 sugar are heated to a temperature of 140°C to 150°C to convert the solid
7 maltose and granulated sugar to a liquid.

8 In the step of mixing pigment with the heated materials (11), desired
9 color pigments are added to the liquid materials.

10 The step of injecting the mixed materials to a mold (12) requires
11 putting the mixed materials into a single or multiple injectors and injecting the
12 different colored materials into different areas of the mold.

13 The step of adding a supplementary material to the mold (13) is carried
14 out after all the materials injected into the mold have solidified by depositing
15 the supplementary material on the solidified materials to hold the solidified
16 materials in adjacent areas.

17 The step of cooling to form a product (14) is performed by passing the
18 product in the mold through a freezer tunnel that has three distinct temperature
19 areas respectively at 3°C, 10°C and 17°C. The different temperatures regulate
20 the temperature of the product.

21 The step of releasing the product from the mold (15) comprises
22 manually removing the pliable mold from the hard cooled product.

23 In the following example, manufacturing a multi-colored chocolate
24 candy comprises the following steps.

1 In the step of heating materials (10), the chocolate is heated to a
2 temperature of 45°C to liquefy the chocolate. Then the liquid chocolate is
3 decreased to a temperature of 38°C in a mixer.

4 The step of mixing pigment with the heated materials (11) comprises
5 adding a desired color pigment to the liquid chocolate.

6 In the step of injecting the mixed materials into a mold (12), the liquid,
7 pigmented chocolate is put into an injector and injected into different areas of
8 the mold.

9 The step of adding a supplementary material to the mold (13) step is
10 carried out when all the pigmented materials have solidified by depositing
11 supplementary liquid chocolate material on the solidified pigmented materials
12 to hold the solidified materials in place. A temperature regulator is used to hold
13 the chocolate in the molds at a specific temperature to enhance bonding
14 between the materials. When the chocolate supplementary material is real
15 chocolate, the temperature regulator maintains the temperature of the real
16 chocolate at 28.5°C. When the chocolate supplementary material is compound
17 chocolate, the temperature regulator maintains the temperature of the
18 compound chocolate at 38°C.

19 The step of cooling to form a product (14) is carried out by passing the
20 product in the mold through a freezer tunnel that has three temperature areas.
21 For compound chocolate, the temperature areas are held respectively at 3°C,
22 10°C and 17°C. For real chocolate, the temperature areas of the freezer tunnel
23 are held respectively at 18°C, 10°C and 13°C.

24 The step of releasing the product from the mold (15) comprises

1 manually separating the pliable mold from the product.

2 With further reference to Fig. 2, the multicolored three-dimensional
3 candy manufactured by the method in accordance with the present invention
4 has multiple areas with different colors, depths, shapes and contours. The
5 product has an upper layer and a lower layer. Since the materials are divided
6 into parts when injected into different areas of the mold, the upper layer has
7 areas (20) with different depths, contours, shapes and color manufactured by
8 the raw materials and the pigment. A gap (21) is formed between adjacent areas
9 (20) by interior walls in the mold that define the different areas. The
10 supplementary material forms a bottom layer on each candy and fills in the
11 gaps (21) between adjacent areas. The 3-D structure of the multicolored three-
12 dimensional candy in accordance with the present invention is better than that
13 of the conventional candy.

14 Although the invention has been explained in relation to its preferred
15 embodiment, many other possible modifications and variations can be made
16 without departing from the spirit and scope of the invention as hereinafter
17 claimed.